HOOK-UPS COMMENT

RADIO PROGRAMS

WEEK'S HIGH LIGHTS

WEER S HIGH LIGHTS

Today

WIAR—1:30 p. m., Peerless reproducers'
half hour: 3:00 p. m., Free synagogue services; 4:00 p. m., Dr. S. Parkes Cadman;
6:00 p. m., Weymouth band; 6:30 p. m.,
Acousticon hour: 7:00 p. m., Old Company
program; 7:30 p. m., Capitol Theatre program; 9:00 p. m., Talk by David Lawrence,
WISI—10:00 a. m., Watchtower program;
8:00 p. m., Service from the Seventh Day
Adventist Church.

WIAR—8:55 p. m., Red Cross First Aid
classes.

classes. WLSI-9:10 p. m., The Bluebirds. WPAW-7:15 p. m., George Massari and his

Tuesday
WJAR-8:00 p. m., Hawaiian Island quintet.
WJSR-8:10 p. m., Kamiki Hawaiians.
WPAW-7:00 p. m., Al Wright and his Barn
dance orchestra.
Wednesday
WJAR-8:30 p. m., Address by former Gov.
Alfred E. Smith.

WIAR—8:30 p. m., Address by former Gov. Alfred E. Smith.
WISI—8:05 p. m., Old Fogey orchestra, and Mayalian entertainment.
WPAW—6:33 p. m.—Al Williams's orchestra.
Thursday
WIAR—8:35 p. m., Vaughan A. Kazarian, befitone, accompanied by Violette Marks.
WISI—9:15 p. m., Walter Wasco and his band.
WFAW—7:15 p. m., Wellody ramblers.
Friday
WJAR—8:00 p. m., Synagogue services from
Temble Beth-El.
WISI—8:10 p. m., Strollers dance orchestra.
WFAW—7:30 p. m., Jean Smith Fletcher, sololist.

ist.

Saturday
WJAR—9:00 p. m., "My Work in Labrador,"
by Wilfred Genfell,
WPAW—6:35 p. m., Studio program arranged
by Frank J. Gillis.

WEAN-THE SHEFARD STORE-545

WEAN—THE SHEFARD STORE—545

11:00 a. m.—Service from All Saints Memorial Church.

12:15 p. m.—Organ recital.

1:00 p. m.—Dudley radio carollers.

2:00 p. m.—Children's chorus.

2:45 p. m.—Radio Sunday school.

3:00 p. m.—United Symphony Orchestra—Columbia.

4:00 p. m.—Cathedral hour—Columbia.

5:00 p. m.—Program arranged by Ann Sanders: Lillian Smith, contraito; Agnes Marcionet, soprano.

5:00 p. m.—Vespers services from Tenth Presbyterian Church, Philadelphia—Columbia.

3:30 p. m.—vespers services from Tenth Presbyterian Church, Philadelphia—Columbia.

6:00 p. m.—Ernest Jol nson, tenor,
6:30 p. m.—Concert orchestra.
7:10 p. m.—Weatherman.
7:11 p. m.—"weatherman.
7:11 p. m.—"Amos 'N' Andy."
7:20 p. m.—Newscasting.
7:30 p. m.—Time signals.
7:31 p. m.—Service from Mathewson Street M. E. Church.
8:30 p. m.—Ta Palina hour—Columbia.
8:30 p. m.—Ta Palina hour—Columbia.
9:00 p. m.—Ta Palina hour—Columbia.
10:00 p. m.—To Forest Audions—Columbia.
10:00 p. m.—"Souvenier"—Columbia.
11:00 p. m.—Providence Journal and Evening Bulletin news flashes.
Monday.
8:30 a. m.—Jane Day and her Polar Bears.
9:00 a. m.—Jane Day and her Polar Bears.
9:00 a. m.—Musicale.
10:00 a. m.—Musicale Buyers.
10:00 a. m.—Musicale.
10:00 a. m.—Shepard Stores concert ensemble.

ble.

11:30 a. m.—Women's Institute, conducted by June Abbott.

11:57 a. m.—Time signals.

12:00 m.—Planist.

12:15 p. m.—Organ service broadcast from

12:09 m.—Planist.
12:15 p. m.—Organ service broadcast from King's Chapel.
1:00 p. m.—Providence Journal and Evening Bulletin news flashes.
1:10 p. m.—Shepard Colonial luncheon concert. 1:30 p. m.—Herbert Liversidge, baritone; El-

Lido p. m.—Herbert Liverside, barenor Geer, accompanist.

1:40 p. m.—Continuation concert.

2:00 p. m.—Plante music.

2:30 p. m.—Studie

2.30 p. m.—Plantes music.
2.31 p. m.—Plantst.
2.31 p. m.—Studio Drogram.
3.00 p. m.—Rhode Island Federation of Women's Clubs session.
4.32 p. m.—Beau Brummell and the Dandies of Yesterday.
4.33 p. m.—Shepard Colonial tea dance.
4.35 p. m.—Popular selections, by Jimmie Gallagher.
5.00 p. m.—Ted and his gang.
6.00 p. m.—Providence Journal and Evening Bulletin news fiashes.
6.05 p. m.—Port Arthur orchestra.
7.05 p. m.—Weatherman.
7.11 p. m.—'Amos 'N' Andy.''
7.20 p. m.—Newscasting.
7.30 p. m.—Biltmore concert orchestra.
7.59 p. m.—Time signals.
8.00 p. m.—The music room—Columbia.
8.30 p. m.—Ceco Couriers—Columbia.
9.00 p. m.—Marrying Off Sally—Columbia.
9.30 p. m.—Wattphone jublica—Columbia.
9.30 p. m.—Wilthphone jublica—Columbia.
9.30 p. m.—United Light Opera Company—

-United Light Opera Company-Columbia.
11:00 p. m.—Providence Journal and Evening Bulletin news flashes. ning Bulleun news hashed.

11:10 p. m.—Band.

Tuesday.

8:30 a. m.—Jane and the musical rogues.

9:00 a. m.—Jane Day and her Polar Bears.

9:30 a. m.—Our New England kitchen.

10:00 a. m.—National Homemakers' Club—

10:30 a. m.—Shepard Stores concert ensemble.

11:30 a. m.—Women's Institute, conducted by June Abbott.

11:57 a. m.—Time signals.

12:00 m.—Musicale.

12:50 p. m.—Providence Journal and Evening Bulletin news flashes.

1:00 p. m.—Shepard Colonial luncheon concert.

cert.
1:30 p. m.—Organ recital.
2:00 p. m.—Dance music.
2:30 p. m.—Selected readings by Lee Brook-

2:50 p. m.—Planist.
2:50 p. m.—Planist.
3:00 p. m.—Studio program.
3:30 p. m.—The dandles of yesterday.
4:30 p. m.—The Doston singers.
5:00 p. m.—Ted and his gang.
5:30 p. m.—Ted and his gang visiting Woonsocket.

5:30 p. m.—Ted and his gang visiting woonsocket.

6:00 p. m.—Providence Journal and Evening
Bulletin news flashes.

6:05 p. m.—C. A. Kilvert & Company hour.

6:35 p. m.—Concert ensemble.

7:05 p. m.—Weatherman.

7:11 p. m.—'Amos 'n' Andy.''

7:20 p. m.—Morey Pearl and his Tent orchestra.

7:59 p. m.—Time signals.
8:00 p. m.—"School Daze." Columbia.

8:00 p. m.—"School Daze," Columbia, 8:30 p. m.—Sweethearts, Columbia, 9:00 p. m.—Hank Simmons Show Boat, Co 10:00 p. m.—The Voice of Columbia, Colum-11:00 p. m.-Wrigley's Royal Canadians, Co-

lumbla. Wednesday

8:30 a. m.—Jane and musical rogues.
9:00 a. m.—Jane Day and her polar bears.
9:45 a. m.—Grant magic buyers.
10:00 a. m.—National Homemakers' Club, Columbia 10:30 a. m.—National results 10:30 a. m.—Shepard stores concert ensem

ble.

11:30 a. m.—Women's Institute. conducted by June Abbott.

11:57 a. m.—Time signals.

12:00 m.—Port Arthur orchestra.

12:50 p. m.—Providence Journal and Evening Bulletin news flashes.

1:00 n. m.—Standard Calental Juncheon con-

1:00 p. m.—Shepard Colonial luncheon con-

1:30 p. m.—Organ recital. 2:00 p. m.—Studio program.

3:00 p. m.—Organ recital. 3:30 p. m.—Our New England kitchen.: 4:00 p. m.—The dandles of yesterday. 4:30 p. m.—Magawankapog Centre artists

5:00 p. m.—Angawankapog Centre artists
5:00 p. m.—Ted and his gang.
6:00 p. m.—Providence Journal and Eve6:05 p. m.—A. & P. voyagers in distant
6:05 p. m.—A. & P. voyagers in distant 6:35 p. m.—Asia serenaders.

p. m.—Asia serenadors.
p. m.—Weather man.
p. m.—Miviscal program.
p. m.—Miviscal program.
p. m.—Miviscal reverles.
p. m.—Murical reverles.
p. m.—Musical enisode. Columbia.
p. m.—New York firemen's ball, broadcast from Madison Square Garden, Columbia.

9:00 p. m.—Daguerreotypes and silhouettes.

10:30 a. m.—Shepard Stores concert ensemble. 11:30 a. m.—Women's Institute, conducted by June Abbott.

June Abiott.

11:57 a. m.—Time signals.

12:00 m.—Planist.

12:15 p. m.—Noon service.

1:00 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Shepard colonial luncheon concert.

1:30 p. m.—Organ recital.

2:00 p. m.—Diversified musical program.

2:45 p. m.—Planist.

3:00 p. m.—Moments of mirth and melody.

3:50 a. m.—The dandles of yesterday.

4:30 p. m.—Bud Sherwin and his crimson ramblers.

4:30 p. m.—Bud Sherwin and his crimson ramblers.
5:00 p. m.—Ted and his gang.
5:50 p. m.—Planist,
6:00 p. m.—Providence Journal and Evening Bulletin news flashes.
6:03 p. m.—The Sage and his musical wise-6:35 p. m.—The Sage and his musical wise-men. 6:35 p. m.—Jimmy Walsh and his orchestra. 7:35 p. m.—Weatherman. 7:20 p. m.—Newscasting. 7:25 p. m.—Morey Pearl and his tent or-chestra. 7:59 p. m.—Time signals. 8:00 p. m.—United Opera Company, Colum-bia.

9:00 p. m.—Aunt Jemima, Columbia. 9:30 p. m.—Sonora phonograph hour, Columbia. bla.
10:00 p. m.—The Columbians. Columbia.
10:30 p. m.—Close-Ups, Columbia.
11:00 p. m.—Providence Journal and Evening Bulletin news flashes.

11:00 p. m.—Providence Journal and Evening Bulletin news finshes.

11:10 p. m.—Broadeast from Arcadia.

Friday.

8:30 a. m.—Jane and the musical rogues.

9:00 a. m.—Jane Day and her polar bears.

9:45 a. m.—Grant magic buyers.

10:00 a. m.—National Homemakers' Club.

Columbia.

10:30 a. m.—Shepard Stores concert ensemble.

11:30 a. m.—Women's Institute, conducted by June Abbott.

11:57 a. m.—Time signals.

12:00 m.—Radio household bazaar, Columbia.

12:15 p. m.—A popular program.

12:50 p. m.—Providence Journal and Evening Bulletin news flashes.

Bulletin news flashes.

1:00 p. m.—Shepard Colonial luncheon con-

1:00 p. m.—Snepara Colombi Inhelicul C cert
1:30 p. m.—Organ recital.
2:00 p. m.—Variety hour.
2:30 p. m.—Sherbara Miller, soprano.
2:45 p. m.—Short story period.
3:00 p. m.—Organ recital.
3:30 p. m.—Our New England kitchen.
4:00 p. m.—The dandles of yesterday.
4:00 p. m.—The dandles of yesterday.
4:30 p. m.—Musical interlude.
4:40 p. m.—Shepard Colonial tea dance.
5:00 p. m.—Fireside fancies.
6:00 p. m.—Fireside fancies.
6:35 p. m.—Musicale.
6:45 p. m.—Ena Jettick melodies, Colu m.—Enna Jettick melodies, Colum-

6:45 p. m.—Enna Jettick melodies, Columbia.

7:05 p. m.—Weatherman.

7:11 p. m.—'Amos 'N' Andy.''

7:20 p. m.—Newscasting.

7:30 p. m.—Uncle Red und his A. B. C. club.

7:59 p. m.—The signals.

8:00 p. m.—The crystal gazer, Columbia.

8:30 p. m.—Then and Now, Columbia.

9:00 p. m.—True story hour, Columbia.

10:00 p. m.—United choral singers. Columbia.

10:00 p. m.—Thirty minute men, Columbia.

11:00 p. m.—Providence Journal and Evening
Bulletin news flashes.

11:10 p. m.—After-theatre rhythm hour.

Saturday.

8:30 a. m.—Jane and the musical rogues.

9:00 a. m.—Jane Day and her polar bears.

9:30 a. m.—Gakite redwings.

10:00 a. m.—Mrs. Ida S. Harrington, "American Homemakers."

10:00 a. m.—Mrs. Ida S. Harrington, "American Homemakers."

10:30 a. m.—Shepard Stores concert ensemble.

11:30 a. m.—Women's Institute, conducted by June Abbott.

11:45 p. m.—Cousin Charlotte and her children's music club.

11:57 a. m.—Time signals.

12:00 m.—Continuation of Cousin Charlotte's music club.

music club.

12:15 p. m.—Asia serenaders.
12:50 p. m.—Providence Journal and Evening Bulletin news flashes.

1:00 p. m.—Shepard Colonial luncheon con-

cert.

1:30 p. m.—Popular songs.

1:50 p. m.—Popular songs.

2:00 p. m.—Masterplece recordings.

2:30 p. m.—Ad Sarazen and his orchestra.

3:00 p. m.—The dandies of yesterday.

4:30 p. m.—The dandies of yesterday.

6:00 p. m.—Ted and his gang.

6:00 p. m.—Providence Journal and Evening Bulletin news flashes.

6:05 p. m.—Stevens musical selections.

6:05 p. m.—Stevens musical selections. 6:35 p. m.—Band.

7:30 p. m.—Port Arthur orchestra.
7:59 p. m.—Time signals.
8:00 p. m.—WNAC players.
9:00 p. m.—Rhodes orchestra.
10:00 p. m.—Blitmore Hotel orchestra.
10:25 p. m.—Providence Journal and Evening
Bulletin news flashes.
10:30 p. m.—Continuation of Biltmore orchestra.
11:00 p. m.—Broadcast from Arcadia.
WISE_THE GUITLET COMPANY—337

WJAR-THE OUTLET COMPANY-337 WJAR—THE OUTLET COMPAN 1—337

1:30 p. m.—Peerless Reproducers' half hour of harmony, National: "In a Chinese Pagoda." Bratton: "Slavonic Fantasia." Kreisler, ensemble: "The House by the Side of the Road." Clarke, Edward Wolter, baritone: "Noin," Arndt. "Prelude to the Deluge," Saint-Saens," ensemble: "Captain Stratton's Fancy." Taylor. Edward Wolter, baritone: "Spanish Dance No. 1," Herbert, cnsemble.

semble.
p. m.—Free synagogue services, National.

3:00 p. m.—Free synagogue services, Mational.
4:00 p. m.—Dr. S. Parkes Cadman, National: Processional, "O Come; All Ye ai: Processional, "O Come; All Ye Faithful!" hymn, "Immortal Love, Forever Full;" prayer, Dr. Cadman; tesponse. "Sevenfold Amen:" anthem, "The Long Day Closes:" Scripture reading, Dr. Cadman; response, "Send Out Thy Light;" hymn, "Jesus Shail Reign Where'er the Sun:" address, "Life's Loyalties," Dr. Cadman: anthem, "Trust in the Lord; "questions and answers, Dr. Cadman; prayer, Dr. Cadman; hymn, "Love Divine All Love Excelling;" benediction, Dr. Cadman; recessional, "Holy Spirit Truth Divine."

recessional, "Holy Spirit Truth Divine."

5:30 p. m.—Weather report.

5:55 p. m.—Temperature report.

6:00 p. m.—Weymouth Post American Legion band, National: "Prince of India Overture." King: "Lone Eagle March."

Carey: "I Love Thee" and "The Destruction of Atlantis," from "The Atlantis Suite." Safranek: "Slidin' Some."

Chenette: "Pinafore Selections," Sullivan: "Sheridan Sabres March," St.

Clair: "Beauties of Erin," prranged by Bennett; "Crescent Temple March," Mayer.

Bennett; "Grescent Temple Match.

6:30 p. m.—Acoustleon hour, National.

7:00 p. m.—Old Company progrem, National; "Scot, What Ha'e W! Wallace
Bled;" "Turn Ye to Me;" "Loch Lomond;" "For Banks and Braes O' Bonny
Doon;" "Roys Wife of Aldvalloch;"
"Annie Laurie."

7:30 p. m.—Caultol Theatre program, National.

tional.

9:00 p. m.—"Our Government," by David
Lawrence, National.

9:15 p. m.—Providence Journal and Evening 9:15 p. m.—Providence delle Bulletin news flashes.

Monday.

10:15 a. m.—Musical program. 10:30 a. m.—Good Groceries, by Sally Saw 10:30 a. m.—Good Groceries, by Sally Sawyer.

11:00 a. m.—Musical program.

11:15 a. m.—Radio' household institute—
National.

1:05 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Studio program

1:30 p. m.—Weather report.

1:35 p. m.—Orotinuation of studio program.

6:15 p. m.—Providence Journal and Evening Bulletin news flashes.

6:25 p. m.—Phode Islanders dance band uncer the personal direction of Samuel
Silverman.

Silverman.

6:55 p. m.—Red Cross first aid classes.

7:00 p. m.—Temperature report.

7:00 p. m.—Narragansett Hotel concert.

7:30 p. m.—The Rhode Island Historian."

7:40 p. m.—Joe Fogarty, tenor, accompanied by Violette Marks.

7:55 p. m.—Weather report.

8:00 p. m.—The Voice of Firestone—Naticial.

8:30 p. m.—A. & P. Gynsles—National.

9:20 p. m.—Ceneral Motors Family Party—Hattonal

8:00 p. m.—The Voice of Firestone—National, 10:00 p. m.—Kolster radio hour, Columbia, 10:00 p. m.—Noister radio hour, Columbia, 10:00 p. m.—The Voice of Firestone—National, 10:00 p. m.—Control Motors Family Party—Hational, 10:00 p. m.—Control Motors Family Party—Hational, 10:00 p. m.—Providence Journal and Evening Bulletin news flashes.

Tuesday, 10:00 p. m.—Housewives' Radio Exchange, a department conducted by Mrs. Wood

Today's Programs in Brief

2:45-Feature, WABC, 349.

469. Talk, WEEI, 508. Feature, WGBS, 254.

For the convenience of radio fans the fol-lowing hourly schedule of broadcasting today is given in brief form. Figures following sta-tion denote wave length.

The hours are based on Eastern standard LOCAL STATIONS

10:00—Conference, WLSI, 248. 11:00—Church, WEAN, 545. 12:15—Organ, WEAN, 545. 1:00—Music, WEAN, 545. 1:30—Music, WJAR, 337. 2:00—Music, WEAN, 545. 2:30—Chorus, WEAN, 545. 2:30—Chorus, WEAN, 545. -Gunday school. WEAN, 545. -Sunday school. WEAN, 545. -Feature. WJAR, 337. Music, WEAN, 545. Music, WEAN, 545.
4:00—Conference, WJAR, 337.
Music, WEAN, 545.
5:00—Music, WEAN, 545.
5:30—Church, WEAN, 545.
5:55—Weather, WJAR, 337.
6:00—Music, WEAN, 545.
Band, WJAR, 337.
6:30—Music, WEAN, 545.
7:00—Music, WJAR, 337.
7:11—Feature, WJAR, 337.

Feature, WJAR, 337.
7:00—Music, WJAR, 337.
7:11—Feature, WEAN, 545.
7:29—Correct time, WEAN, 545.
7:30—Concert, WJAR, 337.
Feature, WEAN, 545.
8:30—Music, WEAN, 548.
8:30—Music, WEAN, 548.
9:00—Talk, WJAR, 337. 8:30—Music, WEAN, 545, 9:00—Talk, WJAR, 337, Music, WEAN, 545, 9:15—News, WJAR, 337, 10:00—Music, WEAN, 545, 10:30—Music, WEAN, 545, 11:00—News, WEAN, 545.

EASTERN STATIONS

EASTERN STATIONS

8:30—Feature, WICC, 210.

9:00—Music, WICC, 210.

Children's hour, WJZ, 395.

9:45—Music, WICC, 210.

10:00—Children's hour, WABC, 349.
Church, WICC, 210.

10:30—Church, WHAM, 261.

10:45—Church, WGR, 545; WEEI, 508; WIP, 492; WBZ, 303.

10:50—Feature, WICC, 210.

11:00—Church, KDKA, 306; WABC, 349; WGY, 380.

12:30—Music, WEAF, 454; WJZ, 395; WBAL, 283; WABC, 349.

1:00—Talk, WEEI, 508.
Organ, WJZ, 395.
Feature, WBAL, 287; WICC, 210.

1:30—Music, WGR, 297; WGBS, 254; WRC, 369; WEEI, 508; WGY, 380; WBZ, 303; KDKA, 306.

1:45—Feature, WABC, 349.

2:00—Music, WTIC, 500; WHAM, 261.
Roxy and his gang, WRC, 469; WBAL, 287; KDKA, 306; WJZ, 395; WBZ, 303.
Feature, WEEI, 508; WGY, 395; WBZ, 303.

Feature, WEEI, 508; WGY, 395; WBZ, 303.

Feature, WEEI, 508; WGY, 469; WBAL, 287; KDKA, 306; WJZ, 395; WBZ, 303.

Feature, WEEI, 508; WGAF, 454; WICC, 210.

303. Feature, WEEI, 508: WEAF, 454: WICC, 210: WOR, 422: WTAG, 517. 2:15—Music, WABC, 349. 2:30—Music, WEAF, 454; WGBS, 254; WGR,

545: WICC, 210. Feature, WIP, 492; WOR, 422; WTIC, 500. on matters of household interest. Questions submitted will be answered

Questions submitted will be answered radio.

11:00 a. m.—Musical program.

11:15 a. m.—Radio household institute—National.

4:00 p. m.—Weather report.

4:00 p. m.—Musical program.

4:00 p. m.—Auction bridge game—National.

6:45 p. m.—Providence Journal and Evening Bulletin news flashes.

6:35 p. m.—Weather report.

ning Bulletin news flashes.

6:55 p. m.—Weather report.

7:00 p. m.—Weather service program sponsored by the National League of Women Voters—National.

7:30 p. m.—Soconyland sketches—National.

8:00 p. m.—Temperature report.

8:00 p. m.—Hawaiian Island quintet.

8:30 p. m.—Prophylactic program—National.

9:00 p. m.—Everendy hour—National.

10:00 p. m.—Clicquot Club Eskimos—National.

10:30 p. m.—Providence Journal and Eve-

10:30 p. m.—Providence Journal and Evening Bulletin news flashes. Wednesday 9:30 a. m.—Housewives Radio Exchange, a department conducted by Mrs. Wood on matters of household interest. Questions submitted will be answered by

radio.

10:00 a. m.—National home hour—National.

11:00 a. m.—Augusta Bowen Fanning, fabric stylist. Subject, "Remodelling."

11:05 a. m.—Musical program.

11:15 a. m.—Radio household institute—National.

1:05 p. m.—Providence Journal and Evening Bulletin news flashes.

ning Bulletin news flashes.

1:10 p. m.—Studio program.

1:25 p. m.—Red Cross first ald classes.

1:30 p. m.—Continuation of studio program.

6:45 p. m.—Perovidence Journal and Evening Bulletin news flashes.

6:55 p. m.—Temperature report.

6:55 p. m.—Ferl Shean and his orchestra.

7:25 p. m.—Weather report.

8:00 p. m.—Wolchelson-Thackray — "Home, Sweet Home."

8:00 p. m.—Nichelson-Theckray — "Home, Sweet Home."
8:30 p. m.—Address by former Governor Alfred E. Smith, speaking under the auspices of the Democratic National Committee—National.
9:00 p. m.—Ioana Troubadour—National.
9:30 p. m.—Palmolive hour—National.
10:30 p. m.—Providence Journal and Evening Bulletin news flashes. Thursday

10:15 a.m.—Musical program. 10:30 a.m.—Good groceries by Sally Sawyer. 11:00 a.m.—Musical program. 11:15 a.m.—Radio household institute—Na-1:05 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Providence Journal and Evening Bulletin news flashes.

1:10 p. m.—Studio program.

1:30 p. m.—Weather report.

1:35 p. m.—Continuation of studio program.

6:45 p. m.—Providence Journal and Evening Bulletin news flashes.

6:55 p. m.—Premperature report.

6:55 p. m.—Narragansett Hotel concert orchestra.

7:25 p. m.—Weather report.

7:30 p. m.—Coward comfort hour—National.

8:00 p. m.—Coward comfort hour—National.

8:00 p. m.—Coliropractic Society of Rhode Island talk.

8:35 p. m.—Vaughan A. Kazarian, baritone,

Island talk.

8:35 p. m.—Vaughan A. Kazarian, baritone, accompanied by Violette Marks.

9:00 p. m.—Seiberling singers—National.

9:30 p. m.—Sevillanos and Casinelli—National.

10:00 p. m.—Halsey-Stuart hour—National. 10:30 p. m.—Providence Journal and Eve-ning Bulletin news flashes. 9:30 a. m.—Housewives' Radio Exchange, a department conducted by Mrs. Wood on matters of household interest. Ques-tions submitted will be answered by

10:00 a. m.—National Home Hour, National. 11:00 a. m.—A. and P. Bureau of Home Economics 11:15 a. m.—Radio Household Institute, National. 11:30 a.m.—Musical program. 2:00 m.—Teeth, Health and Happiness, Na-

11:00 m.—Teeth, reconstitutional.
12:00 m.—Teeth, reconstitutional.
4:30 p. m.—Weather report.
4:35 p. m.—Musical program.
5:00 p. m.—Florida Citrus Growers. Nation-

6:15 p. m.—Prévidence Journal and Evening
Bulletin news flashes.
6:25 p. m.—Weatlfer report.
6:30 p. m.—Raybestos Twins, National.
7:00 p. m.—Oh Boy Detectives.
7:20 p. m.—Oh Boy Detectives.
7:20 p. m.—The General Assembly Review," sponsored by the Rhode Island
League of Women Voters.
7:50 p. m.—Col. Alonzo R. Williams, General
Manager and Vice President of the
United Electric Railways Company, in
a "Five Minute Chat with the People
of Rhode Island."
8:00 p. n.—Sympaogue Services conducted

of Rhode Island."

8:00 p. ri.—Synagogue services conducted by Rabbi Samuel M Gup direct from Temple Beth-El. Music by the Temple Beth-El choir and soloist under the direction of Gene Ware, oranist.

9:00 p. m.—"An Evening in Paris," National al.
9:30 p. m.—Automobile Club of Rhode Island
talk.
9:35 p. m.—Kohala Hawailans.
10:00 p. m.—Providence Journal and Evening
Bulletin news flashes.

Saturday 10:45 a. m.—Musical program. 11:15 e. m.—Radio Household Institute, Na tional.

1:05 n. rv.—Providence Journal and Evening
Bulletin rews flashes.

1:10 p. m.—Philip Casacelenda and his or-

p. m.—Weather report.
p. m.—Philip Casacelenda and his or-1:35 p. m.—Philip Casacelenda and his or-chestra. 6:10 p. m.—Providence Journal and Evening Bulletin news flashes. 6:15 p. m.—"Robert Browning and His

9:30—Feature, WOR, 422.
9:40—Reading, WHAP, 231.
9:45—Music, WJZ, 395: KDKA, 306; WBAL, 283: WBZ, 303: WHAM, 261.
10:00—Orchestra, WIP, 492.
Music, WPG, 273: WABC, 349.
10:15—Music, WEAF, 454; WFI, 536; WGY, 380: WJZ, 395; WRC, 469.
10:30—Feature, WOR, 422.
10:45—Organ, WJZ, 395.
11:00—Music, WABC, 349.
Organ, WPG, 273.
12:00—Church, WBSO, 384. 3:00—Music, WJZ, 395; WTIC, 500; WEAF, 454; WBZ, 303; WICC, 210; WOR, 422; KDKA, 306; WSBC, 349. Church, WRG, 545; WBAL, 283; WRC,

Church, WRG, 545; WBAL, 283; WRC, 469.
Talk, WEEI, 508.
Feature, WGDS, 254.

3:15—Feature, WHAM, 361; WICC, 210.
Forum, WLWL, 273.
3:30—Muslc, WGBS, 254, WGY, 380.
Feature, WICC, 210.
Muslc, WESS, 254, WGY, 380.
Feature, WICC, 210.
Muslc, WEAF, 454; WTIC, 500; WABC, 349; WHAM, 261; WBAL, 283; WGBS, 254; WICC, 210.
Feature, WJZ, 395; WEEI, 508; WGY, 380; WTAG, 517; WGR, 545.
Organ, KDKA, 306.
4:15—Muslc, WGR, 422.
4:30—Muslc, WIAM, 261.
Feature, WBZ, 303; WPG, 273.
Church, WFI, 536.
4:45—Feature, WBZ, 303.
Church, KDKA, 306.
5:00—Muslc, WIZ, 395; WBAL, 283; WHAM, 261; WGBS, 254; WABC, 349.
5:15—Forum, WOR, 422.
Muslc, WGS, 254,
Church, WPG, 273.
5:30—Feature, WEEI, 508; WJZ, 395; WBZ, 303; WRC, 469; WBAL, 283; WHAM, 261; WGF, 380; WAFC, 349.
Muslc, WGR, 545; WEAF, 454.
6:00—Muslc, WGF, 545; WEAF, 454.
6:00—Muslc, WGF, 545; WEAF, 454.
6:00—Muslc, WGF, 545; WTIC, 500; KDKA, 306; WGY, 380; WABC, 349; WRC, 469; WOR, 422; WTAG, 517.
6:30—Muslc, WEAF, 454; WEEI, 508; WFI, 536; WGR, 545; WTIC, 500; KDKA, 306; WGY, 380; WABC, 349; WRC, 469; WOR, 329; WRC, 469; WBAL, 283; WTAG, 517.
6:30—Muslc, WEAF, 454; WEEI, 508; WFI, 536; WGR, 545; WTIC, 500; KDKA, 306; WGY, 380; WAAM, 261; WJZ, 395; WEAT, 395; WEAT, 395; WEAT, 395; WEAT, 395; WEAT, 395; WEAT, 396; WGA, 396; WHAM, 261; WGA, 396; WG

Atwater Kent hour, WGR, 545; WEAF, 454; WGY, 380; WFI, 636; WEEI, 508. Reading, WHAP, 231. 9:25—Orchestra, WPG, 273.

Message for Today," by Rev. Henry K.

Vye. p. m.—White House dinner concert, 6:30 National.
7:00 p. nf.—Temperature report.
7:00 p. m.—"Musik Tawkalog." by Mabel Woolsey. 7:25 p. m.—Better Business Bureau of Prov-

7:25 p. m.—Better Business Bureau of Providence talk.
7:30 p. m.—Romance Isle, National.
8:00 p. m.—Lyric Male Quartet assisted by Joseph Kimber, humorist.
8:45 p. m.—Exolia Laifam, soprano soloist, accompanied by Violette Marks.
8:55 p. m.—Weather report.
9:00 p. m.—'My Work in Labrador,'' Sir Wilfred Grenfell, National
9:30 p. m.—Mildred Hunt with Marimba orchestra, National.
10:00 p. m.—Lucky Strike orchestra, National.
11:00 p. m.—Providence Journal and Evening Bulletin news flashes.
WLSI—LINCOLN STUDIOS, INC.—248
Today.

Bulletin news flashes.

WLSI-LINCOLN STUDIOS, INC.—248

Today.

10:00 a. m.—Watchtower program from New York city will present "Joseph and His Brethren." This program is to be handled in a different manner, the troupe players endeavoring to adhere to the original text and theme of the ancient Scripture without the "modern twist."

8:00 p. m.—Service from the Seventh Day Adventist Church.

Monday.

3:45 p. m.—News flashes.

4:00 p. m.—Correct time.

8:05 p. m.—Market report.

9:10 p. m.—The Bluebirds.

Tuesday.

3:45 p. m.—News flashes.

4:00 p. m.—Correct time.

8:05 p. m.—Market report.

6:10 p. m.—Correct time.

8:10 p. m.—Market report.

8:10 p. m.—Market report.

8:10 p. m.—Market report.

8:10 p. m.—Market report.

8:10 p. m.—Kamiki Hawaiians.

9:10 p. m.—Charles Miller and his orchestra.

Wednesday.

Wednesday.

Wednesday.
3:45 p. m.—News flashes.
4:00 p. m.—Correct time.
8:05 p. m.—Market report.
8:05 p. m.—Old Fogey orchestral and Hawalian entertainment.
Thursday.
3:45 p. m.—News flashes.

3:45 p. m.—News flashes,
4:00 p. m.—Correct time
8:05 p. m.—Morket report,
9:10 p. m.—Movie Club with the Twilight
Hawaiian quintet,
9:15 p. m.—Walter Wasco and his band.

3:45 p. m.—News flashes.

4:00 p. m.—Correct time. 8:05 p. m.—Market report. 8:10 p. m.—Strollers dance orchestra. Silent. WPAW-SHARTENBERG'S-248

Monday
10:00 a. m.—Musical program.
10:30 a. m.—Staff pianist.
10:45 a. m.—Olney & Payne talk.
11:60 a. m.—Prith avenue of the air.
11:45 a. m.—News bulletine.

6:10 p. m.—Nove puncturs.
6:10 p. m.—Stock quotations.
6:30 p. m.—Weather report.
6:35 p. m.—Studio program.
6:50 p. m.—Weathly movie review, Mrs. Robert Johnston.
7:00 p. m.—Picklejohn radio course of plano Instruction 7:15 p. m.—George Massari and his orches-

8:00 p. in.—Correct time. 10:00 a. m.—Musical program.
10:15 a. m.—A verse or two.
10:30 a. m.—Staff planist.
10:50 a. m.—Feature.
11:00 a. m.—Husicalure.
11:45 a. m.—News bulletins.
2:00 a. m.—Carrect star.

12:00 a. m.—News billetins.
12:00 a. m.—Correct time.
6:10 p. m.—Stock quotations.
6:30 p. m.—Weather report.
6:35 p. m.—Studio program.
7:00 p. m.—Al Wright and his merry old timers barn dance orchestra. 8:00 p. m.-Correct time

8:00 p. m.—Correct time.

Wednesday
10:00 a. m.—Homemakers half hour.
10:30 a. m.—Fequest period,
10:50 a. m.—Feature.
11:00 a. m.—Staff pianist.
11:15 a. m.—Fifth reconce of the air.
11:45 a. m.—News bulletins.
12:00 p. m.—Correct time.
6:00 p. m.—News bulletins. 6:10 p. m.—Stock quotations. 6:30 p. m.—Weather report. 6:35 p. m.—Al Williams's orchestra. 7:20 p. m.—Broadway aristocrats. 8:00 p. m.—Correct time. Thursday.

Thursday,
10:00 a. m.—Musical program,
10:15 a. m.—Short story period.
10:50 a. m.—Feature,
11:00 a. m.—Staff planist,
11:15 a. m.—Request period. 45 a. m.-News bulletins 1:45 a. m.—News bulletins.
1:100 m.—Correct time.
6:00 p. m.—Hews bulletins.
6:10 p. m.—Yock quotations.
6:30 p. m.—Weather report.
6:35 p. m.—Billy Roberts and his Venice Cafe orchestra.
7:00 p. m.—Melklejohn course of radio piano instruction

7:00 p. m.—Melklejohn course of radio instruction.
7:15 p. m.—Melody Ramblers.
8:00 p. m.—Correct time.
Friday.
10:00 a. m.—Mus'cal program.
10:30 a. rr.—Staff planist.
10:50 a. m.—Fecture.
11:15 a. m.—Fecture.
11:20 a. m.—Steipert's new release peri-

Continued on Page Eight.

DISTANT STATIONS 11:00—Music, KNX, 296. 12:00—Feature, KNX, 296. 1:00—Music, KFI, 499: WOC, 300. 1:30—Music, WSM, 461: KFI, 469; KGO, 380: KSTP, 205: KYW, 294: WOC, 300: WSB, 405. 2:00-Music, WMAQ, 448; KSTP, 205; KYW

2:00—Music, WMAQ, 448; KSTP, 205; KYW, 204.
2:30—Music, WOAQ, 300.
3:00—Music, WAAQ, 448; KSTP, 205; KFI, 469; KGO, 380; KYW, 204; WCCO, 370; NS. 206.
Feature, WLW, 428; WCCO, 370; KSTP, 205.
4:45—Trio, WLW, 428; WCCO, 370; KSTP, 205.
4:45—Trio, WLW, 428.
5:30—Music, KOA, 361; WOC, 300; KYW, 294; KSTP, 205.
6:00—Music, KOA, 361; WOM, 461; KFI, 469; KSTP, 205; KYW, 204.
6:15—Music, KOA, 361; WSM, 461; KFI, 469; KSTP, 205; KYW, 204.
6:15—Music, KFI, 469; KGO, 380.
6:30—Music, WLW, 428; KOA, 361; KSTP, 205; KYW, 204.
7:00—Orchestra, WLW, 428; WSB, 405; KSTP, 205.
Music, KOA, 361.
7:03—Organ, KYW, 294.
7:15—Feature, KFI, 469; KGO, 380.
7:25—Music, KYW, 294.
7:15—Feature, KFI, 469; KGO, 380.
7:25—Music, KYW, 294.
7:30—Capitol Theatre program, KFI, 469; KGO, 380.

7:15—Rustic, KFI, 460; KGO, 380.
7:25—Music, KYW, 294.
7:30—Capitol Theatre program, KFI, 469; KGO, 380; WSM, 461; KOA, 361;
7:35—Feature, KYW, 294.
8:00—Talk, KNX, 286.
Music, KFI, 469; WMAQ, 448; WSM, 461; KSTP, 205; KYW, 294; WSB, 405; KOA, 361; KSTP, 205; KYW, 294; WCCO, 370.
8:15—Music, WLW, 428; WSB, 405; KOA, 361; KSTP, 205; KYW, 294; WCCO, 370.
9:00—Talk, WSB, 405.
Music, WCCO, 370.
9:15—Music, WLW, 428; KSTP, 205.
9:35—Music, KFI, 469; KNX, 296; WCCO, 370.
9:15—Music, WLW, 428; KSTP, 205.
9:35—Music, KFI, 469.
9:35—Music, KFI, 469.

10:00—Music, CNRW, 384: KFI, 469; KYW, 294; WCCO, 370.

10:15—Music, WSB, 405: KOA, 361: KSTP, 205: WOC, 305: WSM, 461; WLW, 428.

10:30—Orchestra, WMAQ, 448.

10:50—Feature, KYW, 294.

11:00—Music, WMX, 286.

11:15—Feature, KOA, 361; KYW, 294; WLW, 428.

11:25—Organ, KSTP, 205.

11:40—Orchestra, WMAQ, 448.

12:00—Music, CNRU, 291.

Short Wave and Piezo Crystal Work Brought Him Honors

Commander Taylor is Superintendent of Radio Division of Naval Research Laboratory. - Helped Develop Afferitt Communications

Following the decision of the Instiute of Radio Engineers to hold its annual meeting in Washington next May, an additional honor went to the Capital when the Institute chose Commander A. Hoyt Taylor, superintendent of the radio division of the Naval Research

Commander Taylor, who is one of the developments in the world, was awarded the Liebmann Memorial prize by the Institute for his short wave work and application of the piezo crystal in transnitting circuits year before last. Explosive in speech and aggressive in

manner, Doctor Taylor—better known by that designation than his naval title ls a forceful and outstanding figure in the radio world and there is always something doing when he is around.

Is Radio Pioneer "I might be classified as 25 per cent.

physicist, 25 per cent, inventor, 25 per cent, naval officer and 25 per cent, radio engineer." Doctor Taylor once remarked Which is a fact, for now a man of 50 years old, he is a radio pioneer and has had a varied career.

Born in Chicago, he was graduated from Northwestern University and later

served on the faculties of Michigan State College and the University of Wisconsin.

Farly in 1911 Dr. Taylor started his radio work at the University of North Dakota. From the beginning of this svork, particular attention was given to the study of wave propagation phenomena, fading, influence of weather conditions and studies of directional sys-

Enters Naval Reserve Dr. Taylor entered the Naval Reserve as Lieutenant in March of 1917, and was district communications officer at Great Lakes Naval Training Station. In the summer of 1918 he was promo ted to Lieutenant Commander and sent to Hampton Roads. While there he acted as head of the Experimental Division of the Naval Air Station, studying, particularly, aircraft radio development

Early in 1919 he was ordered to Washington, D. C., and was placed in charge of an aircraft radio laboratory with additional duties in a consulting capacity for other radio activities of the Naval service. During this period he was promoted to the rank of Commander in the reserve force, remaining on active duty in this rank until July of 1922. Dr. Taylor was later made superintendent of the Radio Division at the Naval Research Laboratory.

Baffle Board Needed.

Dynamic speakers will not perform without a baffle board. A suitable baffle board or resonance chamber must be provided. The purpose of this baffle is to prevent the sound, emanating at the front of the cone. from reaching the back of the cone. larger the baffle, the better the results. The Dynamic Speaker

The dynamic type of speaker is designed to operate either from a battery usually of 2 mfds. capacity. The effecsigned to be lighting circuit. It will be tiveness of an output filter or an outable to give maximum results only on put transformer depends largely upon sorts equipped with up-to-date trensformers for the amplifier and employas well as the type of loud-speaker employed. ing a power tube in the last stage.

Weekly Radio Test

1. What is meant by "loose static?"

2. Does static follow the broadcast from a stotion or does it depend entirely on the atmospheric conditions surrounding the receiver itself?

3. What is the chief objection to lengthening an aerial? (Answers to these questions will be found elsewhere in the Radio Section).



Shortly after they had shuffled up the wave-lengths, members of that august body known as the Federal Radio Commission—each of whom, like a Congressman, rates the title "Honorable" vere somewhat taken aback when they received the following telegram from

Baltimore. "Dear Boys: Will you please tie a rope around your necks and tie an anchor at other cause of the interference, it is said the other end and drop into the Potomac? Baltimore will then feel perfectly avenged for the havoc you have wrought by experts of the Bureau, is that the reabout locally."

The wire was signed by one Alexander

R. Greenwald. A few weeks later, however, Mr. Green vald apparently felt better for he sent the following relatively more dignified

ommunication:
"Gentlemen: After a month's trial of the new assignments, it now behooves me to express my opinion that, as a whole, the changes have brought about great improvement. Your change of VFBR to 1270 kilocycles has eliminated the cross-talk that existed between WBAL and WFBR, which was the cause of my nice telegram to you. Thank you."

"We have a temporary radio antenna up with a bamboo mast stuck in the snow," writes Commander Richard E. Byrd in the New York Times. "Petersen is sitting tapping away with the key sending some instructions and New Year's greetings to our shipmates on the City of New York and to members of the expedition on the Eleanor Bolling in New Zealand.

♦ ♦ ♦

"The radio is one of the things that at the moment, impress me. The wonder of the thing—that I can sit out-here on his God-forsaken hunk of ice in a small tent giving instructions for op-erations to my shipmates, some of them 2700 statute miles away; and what a comforting thing it must be for those on the City of New York who, but for the radio, would certainly be worried about us, since we disappeared several days ago over the ice into the haze that lies between us and the ship." ♦ ♦ ♦

There is no quieter man in Washington, with the possible exception of President Coolidge than Andrew W. Mellon, Secretary of the Treasury, Yet, when Secretary Mellon broadcast over station WRC recently, it was necessary for the program director to warn him against making too much noise.
This came about through Mr. Mellon's turning the pages of his speech. The sound was scarcely audible in the studio

but, amplified, it went into Chicago, for nstance, with all the gusto of a young thunderstorm.

A hastily scribbled message was placed the radio division of the Naval Research in front of the Secretary. Thereafter, Laboratory in Washington, D. C., as its instead of turning over the pages of his speech, he allowed them to flutter one by one to the floor as each was read. and distant listeners were relieved of their anxiety concerning the personal

safety of the speaker during the remainder of his address. The broadcaster is becoming more and more an ally of the housewife as she turns to him in greater numbers every day for help in the solving of her prob-

Some of the favors she asks may not be exactly in the radio line; nevertheless. she does not hesitate at writing in to One listener, whose chirography was feminine, appealed to an announcer at KFRC, San Francisco, to buy her 4%

vards of lace. She sent along a sample

o he would get the right kind. ♦ ♦ ♦

Radio News reports this conversation "Television ought to be a big hit n Missouri.'

On: "Why so?"
Ne: "Well, you know, you've got to show 'em' in that State!"

RADIO CLUB OF R. I. Motion Pictures on Radio to be Shown

Tomorrow Night. Two reels of motion pictures, setting forth in a graphic way the working principles and theories of radio, will be shown at the weekly meeting of the Radio Club of Rhode Island, which is to be held tomorrow night in the Engineering Building of Brown University.

The meeting will start at 7:45 o'clock

Following a period of code practice,

which is scheduled to end at 8:30, the

pictures will be thrown on the screen. C. Newton Kraus, President of the club, announces that the demonstration will be open to all persons interested in radio. Following the pictures, L. Thomas Siglin, chairman of the technical committee, will direct the club members in the work of laying out graphs of the va-

rious functions of vacuum tubes. The broadcasting of code practice over Station WIBCR, owned and operated by Mr. Kraus, will be continued Wednesday night on a wave-length of 85 metres. At 6:50 o'clock, a clock will be placed in front of the station's microphone to aid members in tuning in the transmitter. Code practice will go on the air promptly at 7 and will continue until 7:30

Explaining the Filter An output transformer and a filter accomplish the same purpose, but do it

o'clock.

in different ways. An output filter on be constructed from the secondary of an old transformer and a condense

Less Code Interference as Equipment Improves

Abolishment of Spark Transmitters on Certain Channels Also Benefits Broadcast Listeners.—Some Trouble Was Caused by "Broad" Receivers

BY ROBERT D. HEINL

ans throughout the country by the Ralia Division of the Department of Comnerce, complaining of code interference. Strangely enough, these complaints

country. In fact, complaints of code in-terference have been received, at one me or another, from every State in the Union. Officials of the Radio Division say that the code interference comes from one of three sources. First, from ships at sea at the upper end of the wave band:

out from points in the interior of the

second, from station harmonics using either tube or arc transmission, including army, navy or commercial stations and third, from amateurs. The interference from amateurs is caused by the proximity of the persons who are suffering the interference. An

lective. One of the interesting reports received by the Radio Division from Chicago is the effect that ships in the Gulf of Mexico have been heard in that city just as clearly as if they were operating on

the Great Lakes. Equipment Improves

There has been considerable improve ment in the character of equipment used

INGENIOUS RADIOS MADE FOR PLANES

Results from Tiny Sets Litttle Short of Marvelous

mallest-Size Outfit Weighs Only 86% Pounds, but Has Transmission Range of 25 Miles on Volce and 75 Miles on Code

Generator Included The latest branch of radio communication is aircraft radio, or that which has to do with keeping in touch with those who fly. Because of the strinwith regard to weight and space, special apparatus has had to be designed with an ingenuity that is little short of marvelous. Also, the apparatus had had o be made remarkably simple and almost automatic in operation, since it is realized that the operator is often the pilot of the airplane as well, with more important duties than adjusting

the apparatus to a fine degree.

The smallest standardized aircraft cutfit weighs only 86½ pounds, and oc-cupies about two cubic feet of space. It has a radio telephone range of about 2: miles, and a radio telegraph (CW) range of about 75 miles. The next larger outfit weighs 132 pounds, transmits 200 miles by phone and 500 miles by dot-dash. These weights include the vind-driven generator for supplying all

Watches Only One Meter. The automatic feature of the appara tus is in the nature of a test box which contains the necessary meters for ad-justing the different parts of the transmitter. The adjusting is done on the ground, when the test box is plugged into the various jacks. Once the adjustments are made the test box is disconnected and left on the ground.

currents

The transmitter is now ready for proper operation, with the single job of unwinding the antenna wire which hangs down through an insulated tub-ing in the floor of the airplane, and terminates in a fish weight to keep it tretched out behind the airplane. ntenna wire is paid out or taken in until the antenna radiation meter hows that the antenna circuit is of proper length to be in tune with the oscillating circuit. The antenna radia-tion meter is the only meter which the

Intercommunication Possible.

The aircraft radio set also serves as convenient means of intercommuni-

operator needs to watch.

advantage.

ation aboard the plane. Both operator and passenger or observer are equipped with helmets that contain head-phones. and with a microphone on a chest har-ness. The men aboard can converse with one another, without having their conversation go out on the air. At the flip of a switch, however, the micro-phones are thrown into the radio transmitter for communication with other ships or the ground. The flipping of the switch also throws in the tele graph key, which, for convenience, is provided with a clip so that it can be held on the thigh of the operator-pilot. All in all, aircraft radio represents radio at its best, with every pound and every cubic inch used to the best pos-

INNOVATION POPULAR

Several Makers Plan to Adopt Automatic Tuning for Sets.
Having evidently proved its practical value in addition to having caught the

popular fancy, a wider use of automatic tuning is foreshadowed in the announcement that more set makers expect to adopt it.
"Shortly we will start licensing other

manufacturers on automatic radio," E. F. McDonald, Jr., of Chicago, President of the company which owns the device, said, "and from the applications that we have in, I think that will be one of the large features of this coming year." With the aid of this appliance, which

has been on the market about gix months, it is possible to have nine fixed stations—ones that are listened to regularly-and when the listener desires to tune in on any one of these stations, lever and the dial automatically turns tune in for the conventional in the ordinary way.

in marine communication during the During the course of a year, thou-ands of letters are received from radio what to reduce the annoying interference to broadcasting from this source.

The Radio Division is doing all that it can to remedy this course of inter-ference to the listeners of the country. Immediately upon receipt of the com-plaint the Division gets in touch with the individual with the result that if the code interference is being caused by something that can be remedied, it is done away with.

For instance, not so long ago considerable interference was caused in various parts of Maryland. The Division traced the code and found that it was coming from the Naval radio station, at Annapolis, Md., where the Navy sends out its long distance orders. The Naval officials in order to be helpful to the listeners of the State, shut down the station for certain periods in both the day and night when it was causing the greatest trou-

ble to the fans. In many cases, the experts of the Division find that the code interference is being caused because the sets of those complaining are not as selective as they should be. Suggestions are frequently made for remedying the set which, in

many cases, puts a stop to the trouble One Interference Cause

A great deal of code interference results from the use of damped wave trans-mitters and it came to be regarded as almost inevitable. It was determined however, that improvements could be made in this class of transmitters which materially reduced their decrement and consequently the interference resulting

from their use.

Arc transmitting sets, as generally employed in the past, are also productive of interference by reason of the spacing wave employed and their numerous har-monics. Means have been developed in recent years, however, to reduce the in-terference from these causes in arc transmitters to a point where they are no longer as objectionable as they were.

asmuch as it forbids the use of spark transmitters on 450 metres, or 665 kilocycles, in regions where this might interfere with broadcasting.

The International Radio Convention

which became effective Jan. Will help

the listener against code interference in-

Further Spark Reduction The use of spark transmitters on a 800 metres) is also forbidden after Jan. i, 1930, except in existing land stations. .No new installations of spark transmitters will be permitted under the con-

vention, on ships or aircraft after Jan. 1, 1930, except where input power is less than 300 watts. The use of spark transmitters on all waves is forbidden after Jan. 1, 1940, except for small power transmitters; already mentioned. It is also provided in the convention that no new spark intallation can be fitted in a land or fixed station, and waves of this type are also

forbidden in all land stations after Jan. 1, 1935. The Dial's Diary

By the Trouble-Shooter Portability in a receiver is a good feature, but it is well to keep in mind that every advantage entails a disadvantage. Just why it is that owners of portable sets do not realize that in moving them

around from one room to another results vary, is beyond me. I have seen a perfectly good set rendered inefficient simply by placing it in the wrong position. Sometimes this in the wrong position. Sometimes this can be traced to placing it too near a steel post in an apartment or hotel, or perhaps too near some other metal work in a private nome. In other cases it is because the antenna pick-up through the electric light lines is made less erficient through the change in the floor

When a set is so sensitive that it will

pick up energy without the conventional ground and antenna connections, it is ikely to act as an antenna itself. That is, the binding posts inside the case, the lead-in wiring and the connections that are between the power units and the tuner are just sufficient wave in-terceptors to have the effect of changing the antenna. Also such a sensitive set will produce different results in different directional positions. The electrical wiring in a house is likely to effect a strictly light socket receiver, favorably or otherwise. It depends largely on the amount of shield-

beneath a bath. The metal lath used to hold the plaster for the tiling absorbed too much of the radio energy from the ether. Any radioist who is obtaining only fair results from his set should try it omewhere else in the house before fig-

ing of the lines and the way they are run throughout the house. I happened to find one case where a set would not

operate from the light socket antenna

uring that he has real trouble or that the set is inefficient. PWX CHANGES CALL

Havana Station Henceforth to Be Heard

as CMC.
The call letters of Station PWX at Havana, Cuba, have been changed to CMC. The station now broadcasts Sundays, Mondays and Wednesdays from 8 to 12 p. m., Eastern Standard Time, on 840 kilocycles (357 metres).

On the dial, this is between the points at which Stations WHAS, Louisville (820 kilocycles), and KWKH, Shreveport, La. (850 kilocycles), come in.

One reason for what appears to be

too much similarity in programs is the average fan's reluctance to show more variety in the selection of his radio There is plenty in the way of fare. novelty on the air, but most people to the proper setting. This, however, which come along at the most popular does not interfere with tuning the set hours. The best of music can become

We Are Prepared to

Demonstrate All

BREMER=TULLY

MODELS

Marshall & Company

94 DORRANCE STREET

Phone Gaspee 8519

WHEN SOS HALTS RADIO PROGRAMS

Special Operators on Watch for this is only a matter of seconds.

When the S O S is received, one of the two operators on duty at the transmitting station calls the main control of the two operators.

WEAF and WJZ Keep Constantly

BY AUSTIN C. LESCARBOURA

Far out at sea a ship in distress sends out a feeble call for help. Another ship miles away, perhaps, picks up the message and relays it. A few minutes later the air has been cleared to make code stations and broadcasting stations

When lives are in danger at sea, all transmission of business messages and entertainment must be suspended immediately to give precedence to the saving of lives. Of necessity, business transactions involving huge sums of money, experimental communication between amateurs and the presentation of entertainment to millions of persons must be sacrificed momentarily. "S O S Watch" on Duty

The important job of silencing individual stations when an SOS is picked up, whether it comes directly from the ship calling for help or from a relaying ship, is performed by the men at the transmitters assigned to what is called the "S O S Watch." At the transmit-ters of two New York stations, WEAF at Belmore, L. I., and WJZ at Bound Brook, N. J., men are constantly on duty listening to everything to be heard

n the 600-metre wave length.

Each station is provided with an especially sensitive superheterodyne re-ceiving set, and as long as the station is on the air an operator, with head tional protection, powerful loud speakers also are connected with the receiver.
All except the very feeblest code signals can be heard in any part of the room in which the speakers are situated. Fans Told of Trouble

When an SOS is heard the operator on watch immediately leaves his post

OUR AUTO NUMBER FRAMES WILL BEAUTIFY YOUR CAR.

J. M. BAKER PATTERN CO.

The Walter W. Massie Radio Sales and Service Bureau 16 Windsor Rd., Edgewood

Telephone Broad 0507 MASSIE SERVICE

We sell, service and repair all standard makes of radio

"THE BIG ½"

and goes to a small control room. There he throws a switch, disconnecting the transmitter from the studios in New York, and opens a microphone at his side. The operator makes a brief announcement to the effect that he regrets the interruption to the program.

but the station is signing off for a

S O S. Then he throws another switch that closes down the transmitter. All

coom to announce that the station is off the air. If the interruption promises to be of long duration, purely local with Superheterodyne programs may be allowed to cease, but programs going out to the whole net-work must be kept up, for beyond the Atlantic seaboard broadcasting is going

All Transmissions Cease The man who was on watch has by this time finished shutting down the transmitter, and is calling the district communications superintendent to report that he has heard an SOS and has signed off. Thereafter, he keeps in

touch with the superintendent. The district communications super-intendent at the same time is probably broadcasting from NAH, the naval sta-tion, a general order to ship and shore radio stations, with the exception of those actually "working" the endangered ship, to close down.

Later, when the situation has been learned and aid has been dispatched, a

resume traffic" order will be sent out from NAH. This permits all stations to begin work again. If it has been discovered previously that broadcasting does not interfere with code messages to and from the ship calling for help, these stations will have been allowed to

Operators Keep Record

As soon as the operators at the ransmitters have been informed that l is clear, the transmitters are put operation, the main control room is notified that the program is on the air again and announcements are sent out explaining why the stations were off the air.

Besides listening for S O S calls, the operators on watch must also keep a record of everything important they hear on the 600-metre wave and, with the aid of the supervising engineer keep the transmitter functioning properly. Few accidents are likely to happen, but there is always a possibility pen, but there is always a possibility that one of the huge vacuum tubes may burn out.

New Tube Switched In

If only one of these "blows," the op-rator on watch can substitute another automatically, merely by pressing a button. On rare occasions, how-ever, two tubes fail at the same time and then the station goes off the air. All hands on duty jump to meet the emergency. Heavy wrenches wrest the dead tubes from the water jackets which surround them, and new ones are quickly and very carefully inserted in their places. In not more than three minutes the transmitter is back on th

The operators on watch also have another duty. Fliteen minutes before WEAF or WJZ is to go on the air, they must check up carefully to make sure that no silence has been imposed pre-viously because of an SOS. Putting a station on the air in the midst of ef-forts to get in touch with a foundering ship, a time when seconds may count in saving hundreds of lives, might mean the loss of the last desper-

Highest Highway Bridge.

What is said to be the highest high-way bridge in the world is being completed in the famous Grand Canyon some 130 miles north of Flagstaff, Ariz 830-foot span rears itself more than 450 feet above the waters of the Colorado river. The bridge will open up territory little known to tourists an make more accessible such places of interest as Bryce Canyon, Zion National Park and the Kaibab national forest.

The Only Rhode Island Owned Chain Grocery Stores

Nicholson, Thackray Co.

Good Groceries Since 1875

We Have Changed Our Broadcasting Station

TUNE in on WJAR for Sally Sawyer's popular talks Monday and Thursday mornings at 10:30. OUR Home Sweet Home Orchestra will entertain you from WJAR Wednesday evenings from 8 to 8:30.

Don't Forget to Turn Your Dial to WJAR

Registering A Great Hit!

The New 1929 Model 46-7-Tube

Atwater Kent

WITH DYNAMIC SPEAKER

Price complete, including tubes and speaker— \$139

Come In and See It!

R. I. ELECTRICAL EQUIPMENT CO.

"FIRST RADIO STORE IN PROVIDENCE"

45 Washington Street Phone Dexter 1052

RADIO PROGRAMS

Continued from Page Seven. nity program.
7:30 p. m.—Jean Smith Fletcher, soloist.
8:00 p. m.—Correct time.
Saturday.

Saturday.

10:00 a. m.—Musical period.

10:15 a. m.—Let's Make Believe.

10:50 a. m.—Feature.

11:00 a. m.—Staff planist.

11:15 a. m.—Request period.

11:45 a. m.—News bulletins.

12:00 m.—Correct time.

6:00 p. m.—News bulletins.

6:10 p. m.—Stock quotations.

6:30 p. m.—Weather report.

6:35 p. m.—Studio program, arranged by Frank J. Gillis.

8:00 p. m.—Correct time.

OUT OF TOWN STATIONS To-Day

KDKA-PITTSBURGH-306

1:00 a. m.—Church service. 1:30 p. m.—Allegheny County Memorial Park 1:30 p. m.—Altegneny County Memorial Part program. 2:00 p. m.—Same as WJZ. 3:00 p. m.—Symphony concert. 4:00 p. m.—Organ recital. 4:45 p. m.—Service from Shadyside Pres

4:45 p. m.—Service from Shadyside Presbyterian Church.
6:00 p. m.—William Penn Hotel Orchestra.
6:30 p. m.—Same as WJZ.
7:00 p. m.—Service from Calvary Protestant Episcopal Church.
8:00 p. m.—Same as WJZ.
8:15 p. m.—Same as WJZ.
9:15 p. m.—Same as WJZ.
9:15 p. m.—Same as WJZ.
10:15 p. m.—Correct time.

WABC—NEW YORK—349
a. m.—Children's hour,
a. m.—West End Presoyterian Church
service. ervice.

m.—Jewish day musical program.

m.—Three Little Sachs sketches.

m.—Shubert string quartet.

m.—Richard Kenyon. p. m.—Symphonic hour.
p. m.—Cathedral hour.
p. m.—French trio and tenor sololst 5:00 p. m.—French trio and tenor sololst 6:00 p. m.—Finkenberg musical program. 7:05 p. m.—Henry Soman and his Roosevel

8:00 p. m.—Around the Samovar.
8:00 p. m.—Around the Samovar.
8:30 p. m.—La Palina musical.
9:00 p. m.—Majestic Theatre of the air.
10:00 p. m.—DeForest audions.
11:00 p. m.—Dave Brothers collegians. WBAL—BALTINORE—283
p. m.—String quartet,
p. m.—Same as WJZ,
p. m.—Same as WJZ,
p. m.—Same as WJZ.

p. m.-Uncle Ed and his dream chi oren. 5:30 p. m.—National religious service. 6:30 p. m.—Same as WJZ. 5:30 p. m.—National religiou 6:30 p. m.—Same as WJZ. 7:00 p. m.—Kirk silver hour. 8:00 p. m.—Same as WJZ. 9:15 p. m.—Same as WJZ. 9:15 p. m.—Evening reveries.

WBSO—BABSON PARK—384 . m.—Midnight ministry.

WBZ—SPRINGFIELD—303

10:45 a. m.—Service from South Congregational Church.

1:30 p. m.—Organ recital.

2:00 p. m.—Seame as WJZ.

4:30 p. m.—People's Symphony Orchestra.

4:30 p. m.—Dr. Robert Osgood—Children's -Hospital.

4:45 p. m.—'Noise," Capt. Percy R. Creed.

5:29 p. m.—Weather report.

5:30 p. m.—Same as WJZ.

6:30 p. m.—Same as WJZ.

7:00 p. m.—Sessions chimes.

p. m.—Sessions chimes.
p. m.—Piano recital.
p. m.—World bookman.
p. m.—Doris Kreinin. vic
Leon Vartinian, pianist.
p. m.—Same as WJZ.
p. m.—Michael Aher, be
Stanley Benson, violinist.
p. m.—Same as WJZ.

WEAF-NEW YORK-154

m.—Sylvestre hour. m.—Same as WJAR. m.-Biblical drama, 2:00 p. m.—Biblical drama, Queen concludes.

Sheba."

2:30 p. m.—Frances Paperte, mezzo-soprano.

3:00 p. m.—Same as WJAR.

4:00 p. m.—Same as WJAR.

5:30 p. m.—Twilight voices.

5:55 p. m.—Summary of programs.

6:00 p. m.—Same as WJAR.

7:00 p. m.—Same as WJAR.

7:00 p. m.—Same as WJAR.

7:30 p. m.—Same as WJAR.

9:00 p. m.—Same as WJAR.

9:15 p. m.—Atwater Kent Hour.

10:15 p. m.—National Light Opera.

WEEL-BOSTON-508 m.—Service from Old South
m.—Correct time.
m.—Sam Curtis radio chat.

2:00 p. m.—Sager hour of hospitality.
3:00 p. m.—Weekly book talk by John Claire
Minot.
4:00 p. m.—Same as WJAR.
5:30 p. m.—Fox fur trappers with Earl Nel-

5:30 p. m.—Fox fur trappers with Earl Netson.
6:30 p. m.—Same as WJAR.
6:30 p. m.—Same as WJAR.
7:00 p. m.—Same as WJAR.
7:30 p. m.—Garden talk.
7:50 p. m.—News dispatches.
8:00 p. m.—Sunday night talk by W. S.
Packer.
9:10 p. m.—Lovell and Covel masterpiece
pianist.
9:15 p. m.—Same as WEAF.
10:15 p. m.—News dispatches.

WFI—PHILADELPHIA—536

0 p. m.—Vesper service from the Second Presbyterian Church.
0 p. m.—Same as WJAR.
0 p. m.—Same as WJAR.
0 p. m.—Same as WJAR.
0 p. m.—Service from the Arch Street Presbyterian Church.
5 p. m.—Same as WEAF.
5 p. m.—Same as WEAF.
5 p. m.—Same as WEAF.

WGBS—NEW YORK—254

1:30 p. m.—Scholem Alechem, Jewish musical program.

2:30 p. m.—"Rhythm, Rhyme and Music."

3:00 p. m.—Ethei Johnson, soprano; Albert Rosenthal. 'cellist.

3:30 p. m.—"The Madrigals." ballad recital.

4:00 p. m.—William Bayliss and orchestra.

5:00 p. m.—Newscasting and music.

5:15 p. m.—Studios specialties.

WGR—BUFFALO—545

10:45 a. m.—Service from Westminster Pres
byterian Church. -Correct time and weather. 12:00 m.—Correct time and weather.

1:30 p. m.—Same as WJAR.

2:30 p. m.—Dorothy Wilkes, concert plantst.

3:00 p. m.—Same as WJAR.

4:00 p. m.—Same as WJAR.

5:30 p. m.—Same as WJAR.

6:30 p. m.—Same as WJAR.

6:30 p. m.—Same as WJAR.

7:00 p. m.—Same as WJAR.

7:00 p. m.—Same as WJAR.

7:00 p. m.—Service from Central Pres'nyterian Church.

9:00 p. m. Same as WJAR.

9:00 p. m. Same as WJAR.

9:00 p. m. Same as WJAR.

D. M. Same as WWAF.

D. M. Same as WEAF.

WGY—SCHENECTADY—380

J. a. m.—Service from State Street Presbyterian Church.

JOP. m.—Same as WJAR.

D. m.—Organ recital.

D. m.—Same as WJAR.

D. m.—Arcadie Birkenholz, violinist.

COD. m.—Same as WJAR.

D. m.—Same as

y D. m.—Same as WEAF.

WHAM-ROCHESTER—361

a. m.—Morning church service.
p. m.—Down melody lane.
p. m.—Back to melody.
p. m.—Same as WJZ.

WHAP—NEW YORK—231 p. m.—Sacred mustc. p. m.—Christian Science reading from the writings of Mary Baker Eddy.

9:40 p. m.—Christian Science reading from the writings of Augusta E. Stetson, C. S. D.

WICC—BRIDGEPORT—210
8:30 a. m.—Salutatory, "The Voice That Serves."
8:35 a. m.—Radiogram morning news.
9:00 a. m.—Sunday breakfast recreations.
9:45 a. m.—Mother Thrift Club music.
10:00 a. m.—Service from Park Street Congregational Church.
10:50 a. m.—Hallmarks of WICC.
1:00 p. m.—Ted Smith's Orchestra.
2:00 p. m.—International Bible students' program.

2:00 p. m.—International Bible students program.
2:30 p. m.—Al Bablen's novelty trio.
3:00 p. m.—Josephine Basso in ballads.
3:15 p. m.—Two Perry banjo boys.
3:30 p. m.—National Council of Catholic men.
4:00 p. m.—Prof. Precaccini's musical novelty. 6:00 p. in.-Correct time. WIP—PHILADELPHIA—192 m.—Service from the Holy Trinity 10:45 a. ni.—Service from the Holy Timity Church. 2:30 p. m.—International Bible students' program. 10:00 p. ni.—Instrumental quintet.

WJZ-NEW YORK-395 9:00 a. m.—Children's hour. 2:30 p. m.—String quartet. 1:00 p. m.—National artists' hour 1:00 p. m.—National artists' hour.
2:00 p. m.—Roxy symphony concert.
3:00 p. m.—Young People's Conference.
4:00 p. m.—The Continentals.
5:00 p. m.—Cook's travelogue.
5:25 p. m.—Summary of programs.
5:30 p. m.—Dr. Harry Emerson Fosdick.
6:30 p. m.—Whittall Anglo-Persians.
7:00 p. m.—Correct time.
7:00 p. m.—Fragments of fancy.
8:00 p. m.—Erna Jettick melodics.
8:15 p. m.—Collier's radio hour. p. m.—El Tango Romantico. p. m.—Correct time.

WLWL-NEW YORK-273. . m.-Columbus Council, K. of C 8:00 p. m.—Service from Paulist Fathers Church. Church.
WOR_NEWARK—122.
2:00 p. m.—'Lawyers' Air Magazine.''
2:30 p. m.—Selbert's Caucasians.
3:00 p. m.—Philharmonic Smphony Orches

tra.
4:15 p. m.—Studio recital.
5:15 p. m.—Sunday forum.
6:00 p. m.—Great Cathedrals.
7:00 p. m.—Rudy Vallee's Orchestra.
7:30 p. m.—Veltow's concert orchestra.
8:30 p. m.—Choir invisible.
9:30 p. m.—Market and Halsey street playbouse. house. 10:30 p. m.—Pipo dreams.

WTAG—WORCESTER—517.
1:30 p. m.—Same as WJAR.
2:00 p. m.—Same as WEEI.
4:00 p. m.—Same as WJAR. p. m.—Same as WJAR.
p. m.—Same as WJAR.
p. m.—Studio program.
p. m.—Same as WJZ. 6:30 p. m.—Same as WJAR.
7:30 p. m.—Same as WJAR.
8:30 p. m.—Same as WJZ.
9:00 p. m.—Same as WJAR.
9:15 p. m.—Correct time and news bulletin. WTIC-HARTFORD-500.

WTIC—HARTFORD1:30 p. m.—Same as WJAR,
2:00 p. m.—Same as WEAF,
2:30 p. m.—Same as WEAF,
3:00 p. m.—Same as WJAR,
4:00 p. m.—Same as WJAR,
6:00 p. m.—Same as WJAR,
6:00 p. m.—Same as WJAR,
7:00 p. m.—Same as WJAR,
7:00 p. m.—Same as WJAR,
9:30 p. m.—Same as WJAR,

Interference Filters.

If your radio set happens to be near s bothered every time you run you electric sewing machine or electric refrigerator, you can greatly reduce the noises by obtaining a device known as an interference filter. It is simply connected between your set and the lighting socket and has a special internal circuit, a portion of which is connected by an external binding post and wire to the ground.

Note on Impedance.

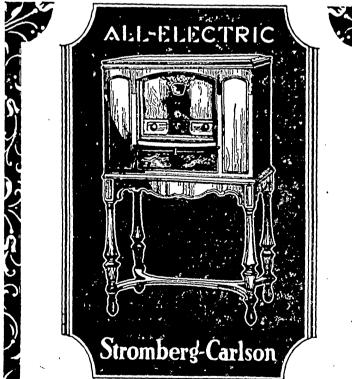
Here is an easy way to classify the matter of impedance: Those who have studied the theory of radio at all know that impendance is a form of resistance When they speak of "matching" impedances, they mean "matching" resistances. But the conception is far from clear. Remember that "impedance" is to alternating current what "resistance" is to direct current.

Speaking of Saturation It is interesting to observe that the largest field of first sales of radio re-colvers to new owners is in those States where already there are the greatest number of receivers. The smallest mar-ket is in a State where there are the least number of receivers in use

Bremer-Tullu

Studio Authorized B-T Dealer

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No. 636, Price, less tubes and Speaker \$245

Noteworthy in Radio

Tonal Excellence—that fidelity of reproduction which has always been the distinguishing mark of Stromberg-Carlson Receivers. Selective-separates stations readily even in areas crowded with broadcasting.

Sensitive-brings in distant programs, even from stations in the high wave channels, which are given extra power.

Balanced-through the use of the Hazeltine patents and total shielding. Two-fold Entertainment—plays records electrically through the Receiver's audio system,

with phonograph and magnetic pick-up. Handsome—cabinet low and graceful, following the modern trend in home decoration. Arrange for a demonstration in your own home.

STEINEDT BLDG. 495 Westminster Street

Vagrant Waves

Though Small, These Units Are Vital of Interest to Fans

cone quality is good.

Any large metal object or structure

Never try to adjust the intricate mechanism of a loud-speaker if the

hree-tenths of a cent an hour.

in St. Louis, Mo., is to have a 50,000-

One of the most powerful broadcasting stations in Europe, capable of reaching the United States, will be con-

According to a radio survey made in Chicago, broadcasts of sports events and musical programs are far superior

to all others in their appeal to listeners in that section of the country.

Radio, experts of the Bureau

use aboard commercial aircraft.

Station KMOX, which will be built apparatus must be of small weight and

Standards, Washington, are perfecting receiving sets especially adapted for combined radio beacon and telephone

Premer-Kully Radio

PRICE COMPLETE \$304.50

exclusive Bremer-Tully feature-Turn the switch and presto! tone to suit your

Simple to Operate

All Bremer-Tully sets are noted for their fine tone quality; but there is an

Price of this beautiful Model 71 Console, complete with Dynamic Speaker

TONAL DITCH

A. C. Electric

Great for Distance Getting

MODEL

7 Tubes and

structed soon in Rome.

watt transmitter. This is the maximum lectivity.

to Good Results. The C battery in the radio set is not called upon to deliver any appreciable amount of current—just to "charge" the grid circuits of our tubes negatively. But batteries lose their strength imply standing and C batteries should not be retained when their voltages drop will serve as an antenna, provided it is not directly grounded. pelow normal. Not only does the battery then fail to charge the grid cir-cuits sufficiently, but in addition the nemical action common to decaying batteries will cause a gradual increase in "noises" in the set. So have a sim-ple voltmeter on hand and give the The average cost of operating an elec-tric radio is said to amount to about batteries the "once-over" now and then. C batterles are very cheap, con-sidering the extra cost we'd be put to in tube life and B current if we didn't have them!

TEST C BATTERIES

ANSWERS TO RADIO TEST 1. Noises that are created by power nes, transformers, electric switches, electrical devices and other near-by receivers. It depends upon conditions sur-

rounding the receiver. 3. Loss of selectivity.

Moying Parts of Set The only parts that are adjusted or noved in the operation of the receiver are the variable tuning condensers and the volume control, and these are so constructed that with ordinary usage hey will last for years.

Power for Tubes An old tube will not glow unless more than normal voltage is applied. New tubes usually require about 135 volts to start to glow. An old tube may require 140 volts. The starting point for the glow varies slightly with in-

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Authorized Radiola Service e They KNOW the Neutrodyn R-A-D-I-O Exclusively 94 DORRANCE STREET Opp. Narragansett Hotel

> I Am Prepared to Demonstrate All

BREMER-TULLY MODELS

CARPENTER RADIO CO.

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Unexcelled Radio

for quality of reproduction, sensitivity and selectivity. Six, seven and eight tube sets on display. Demonstration Free.

SERVICE SPECIALIST

Elmer S. Mathewson

A most exquisite piece of furniture. MODEL **PRICE \$150** (without speaker or tubes) Attractive price makes this set the most popu-MODEL

Extremely Selective

and Tubes, \$304.50

lar product of the Bremer-Tully Mfg. Co., after eight years manufacturing Radio. Only recently enlarged factory facilities have made it wise to advertise this model. This table model has all the exclusive features of the 71 Console.

PRICE \$150

(without speaker or tubes)

There Are Six **Bremer-Tully Models**

B-T 6-40, six tubes\$115 B-T 7-70, seven tubes\$150 B-T 8-20, Rejector stage, eight tubes\$230 B-T 7-71D, seven tube; Dynamic Speaker\$280 B-T 8-21, eight tubes, Dynamic. Speaker, Phonograph Connection \$375. B-T 8-22, eight tubes, Phonograph Combination

Prices are without tubes.

Have you heard a Bremer=Tully Speaker?

Magnetic Type \$30.00 Dynamic Type \$60 and \$65.

Young, Leonard & Harrall Company

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The Outstanding Radio of the Day May be Purchased on Convenient Terms

This new model 71 seven-tube Bremer-Tully Radio with built-in Dynamic Speaker has set an entirely new standard.

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